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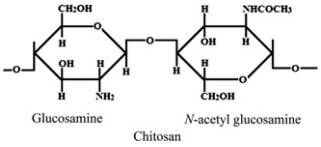
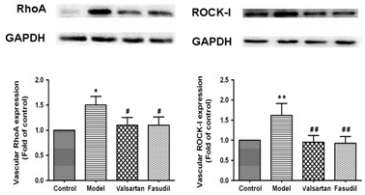
Reviews

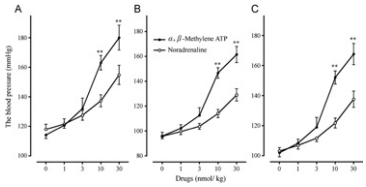


This paper reviews the general properties of chitosan, various methods of modification and applications of the modified chitosan hydrogels in drug delivery and tissue engineering.

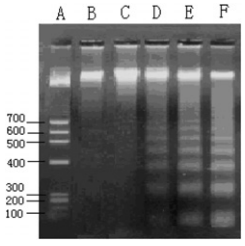
Original Articles



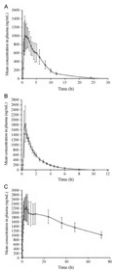
The Rho-kinase inhibitor fasudil and angiotensin II receptor antagonist valsartan exerted antihypertensive action on the L-NAME-treated rats, while only valsartan attenuated the cardiac hypertrophy. These findings suggest that the angiotensin II receptor antagonist interferes more with the contractile response than Rho-kinase inhibitor, whereas inhibition of Rho-kinase activity exhibits a better improvement on vasorelaxation than blockade of angiotensin II receptor.



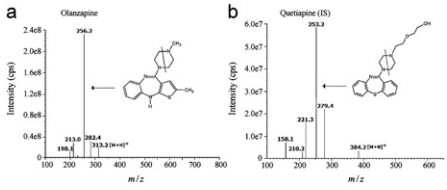
The effects of increasing intravenous doses of α,β-MeATP and noradrenaline (NA) (0–30 nmol/kg) administered at 20 min intervals on systolic, diastolic and mean blood pressure in groups of anesthetized mice ($n=6$) were compared. These results indicate $P2X_1$ receptors play an important role in BP regulation although purinergic vasoconstriction.



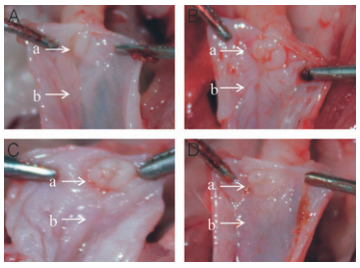
Chelerythrine chloride (CHE) induces human gastric cancer BGC-823 cells apoptosis by a mechanism involving a reduction in the mitochondrial membrane potential, the release of cytochrome c, activation of caspase 3 and cleavage of poly-ADP-ribose polymerase, accompanied by down-regulation of Bcl-xl and Bcl-2 proteins with no change in the levels of Bax proteins.



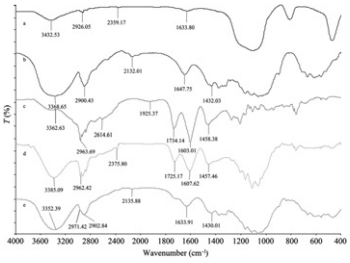
A high throughput liquid chromatography–tandem mass spectrometric method (LC–MS/MS) for simultaneous determination of lamivudine, zidovudine and nevirapine in human plasma was fully validated and applied to a pharmacokinetic study.



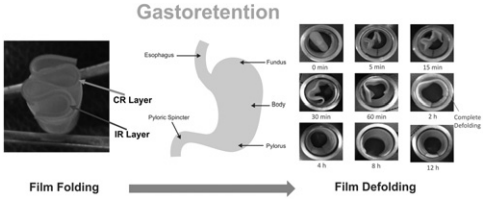
A selective, sensitive and rugged liquid chromatography–tandem mass spectrometry (LC–MS/MS) assay for the determination of olanzapine in human plasma is developed and applied to a bioequivalence study of 40 healthy Indian male subjects under fasting and fed condition.



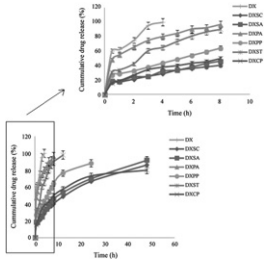
An empirical traditional Chinese prescription made up of six constituents for the treatment of cervical erosion has been formulated into a thermosensitive gel (five constituents) giving controlled release of berberine and a regular gel of catechu releasing catechin. The formulation was shown to be effective in an experimental rat model of cervical erosion.



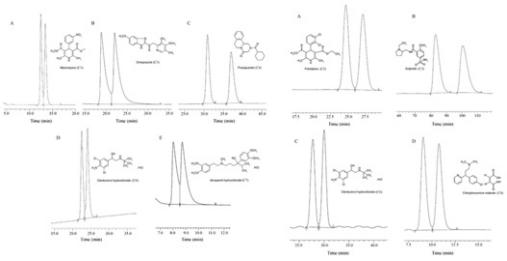
The dissolution rate of the poorly soluble drug valsartan was improved by formulation as a liquisolid compact using propylene glycol as solvent, Avicel PH102 as carrier, and Aerosil 200 as the coating material. The increase in the dissolution rate was significant compared to the marketed product at lower pH values which simulate the site of absorption in the upper gastrointestinal tract.



A gastroretentive bilayer mucoadhesive film of furosemide was developed with Carbopol® 971P NF, Eudragit RLPO and HPMC E4M as polymers and hydroxypropyl β-cyclodextrin as solubilizer.



This paper describes a comparative study of mucoadhesive polymers, including sodium carboxymethyl cellulose, sodium alginate, polyvinyl alcohol, polyvinylpyrrolidone, starch and carbopol, used in mucoadhesive microparticles as potential carriers in inhalation delivery of doxycycline hyclate.



Eight chiral drugs were separated by two amylose ramification chiral stationary phases, Chiralpak AD-H and Chiralpak AS-H, and the separation mechanism was interpreted.